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APR 19 2010

AMENDMENTS TO CLAIMS

1-8. (Canceled)

9. (Previously presented) A compound sheath superconducting wire comprising at least one magnesium boride core wire member including:

a tubular-shaped metal cladding layer, a metal base member that is coaxial with the tubular-shaped metal cladding layer, and a superconductor material coaxially provided within the tubular-shaped metal cladding layer and the metal base member, and wherein one of the metal cladding layer and the metal base member has an electric resistance of 7 μΩ or less at room temperature, and wherein the other of the metal cladding layer and the metal base member includes iron and has a Vickers hardness of at least 50 at room temperature; and

an intermediate layer, wherein the intermediate layer operates as a junction auxiliary material coaxially arranged between the metal cladding layer and the metal base member, wherein the junction auxiliary material is electrically and mechanically unified and integrated with the metal base member and the tubular-shaped metal cladding layer in a unitary block, the junction auxiliary material at least containing a metal selected from a group including copper, silver, gold, palladium, aluminum, silicon, indium, tin, zinc, iron, lead, nickel, manganese and boron.

10. (Previously presented) A compound sheath superconducting wire comprising at least one magnesium boride core wire member including:

a tubular-shaped metal cladding layer, a metal base member that is coaxial with the tubular-shaped metal cladding layer, and that is drawn and elongated together with the tubular-shaped metal cladding layer, and a superconductor material coaxially provided within the tubular-shaped metal cladding layer and the metal base member, and wherein one of the metal cladding layer and the metal base layer includes iron and has a Vickers hardness of at least 50 at room temperature, and wherein the other of the tubular-shaped metal cladding layer and the metal base member has an electric resistance of 7 μΩ or less at room temperature; and

an intermediate layer coaxially arranged between the tubular-shaped metal cladding layer and the metal base member, wherein the intermediate layer operates as a junction auxiliary material during the drawing and elongation of the tubular-shaped metal cladding layer and the metal base member, and the junction auxiliary material is electrically and mechanically unified and integrated with the metal base member and the tubular-shaped metal cladding layer in a unitary block, to avoid formation of a gap between the tubular-shaped metal cladding layer and the metal base member during the drawing and elongation of the tubular-shaped metal cladding layer and the metal base member, the junction auxiliary material at least containing a metal selected from a group including copper, silver, gold, palladium, aluminum, silicon, indium, tin, zinc, iron, lead, nickel, manganese and boron.

11. (Previously presented) The compound sheath superconducting wire of claim 21, wherein the plurality of magnesium boride core wire members are twisted.

12. (Previously presented) The compound sheath superconducting wire of claim 21, wherein the plurality of magnesium boride core wire members have a density of at least 90% with respect to a theoretical density.

13. (Canceled)

14. (Previously presented) The compound sheath superconducting wire of claim 9, wherein the metal cladding layer comprises at least one material selected from the group comprising copper, aluminum, gold, silver, nickel, molybdenum, brass and niobium.

15. (Previously presented) The compound sheath superconducting wire of claim 9, wherein the metal base layer comprises at least one material selected from the group comprising SUS304, SUS316, SUS310, SUS430, carbon steel, cobalt, tungsten, nickel, molybdenum, titanium, aluminum-based alloy, titanium-based alloy, nickel-based alloy, copper-based alloy, niobium-based alloy and magnesium based alloy.

16. (Previously presented) The compound sheath superconducting wire of claim 22, wherein the plurality of magnesium boride core wire members are twisted.

17. (Previously presented) The compound sheath superconducting wire of claim 22, wherein the plurality of magnesium boride core wire members have a density of at least 90% with respect to a theoretical density.

18. (Canceled)

19. (Previously presented) The compound sheath superconducting wire of claim 10, wherein the metal cladding layer comprises at least one material selected from the group comprising copper, aluminum, gold, silver, nickel, molybdenum, brass and niobium.

20. (Previously presented) The compound sheath superconducting wire of claim 10, wherein the metal base layer comprises at least one material selected from the group comprising SUS304, SUS316, SUS310, SUS430, carbon steel, cobalt, tungsten, nickel, molybdenum, titanium, aluminum-based alloy, titanium-based alloy, nickel-based alloy, copper-based alloy, niobium-based alloy and magnesium based alloy.

21. (Previously presented) A compound sheath superconducting wire comprising:

a metal base wire member with a Vickers hardness of at least 50 at room temperature, wherein the metal base wire member includes iron,

a plurality of tubular-shaped metal cladding layers having a superconductor material coaxially provided within the tubular-shaped metal cladding layers, wherein each of the metal cladding layers has an electric residence of 7 $\mu\Omega$ or less at room temperature, each of the tubular shaped metal cladding layers being arranged to be provided within the metal base wire member in parallel with each other along a longitudinal direction of the metal base wire member prior to a drawing step to form the compound sheath superconducting wire, and

an intermediate layer coaxially provided outside the tubular-shaped metal cladding layers, wherein the intermediate layer is electrically and mechanically unified and integrated with the metal base member and the tubular-shaped metal cladding layers in a unitary block such that a gap is not formed between the metal base wire member and the tubular-shaped metal cladding layers by a drawing step to form the compound sheath superconducting wire, the junction auxiliary material at least containing a metal selected from a group including copper, silver, gold, palladium, aluminum, silicon, indium, tin, zinc, iron, lead, nickel, manganese and boron.

22. (Previously presented) A compound sheath superconducting wire comprising:

a metal base wire member with an electric resistance of 7 $\mu\Omega$ or less at room temperature,

a plurality of tubular-shaped metal cladding layers having a superconductor material coaxially provided within the tubular-shaped metal cladding layers, wherein each of the metal cladding layers has a Vickers hardness of at least 50 at room temperature, each of the tubular-shaped metal cladding layers being arranged to be provided within the metal base wire member in parallel with each other along the longitudinal direction of the metal base wire member prior to a drawing step to form the compound sheath superconducting wire, wherein the tubular-shaped metal cladding layers include iron, and

an intermediate layer coaxially provided outside the tubular-shaped metal cladding layers, wherein the intermediate layer is electrically and mechanically unified and integrated with the metal base member and the tubular-shaped metal cladding layers in a unitary block such that a gap is not formed between the metal base wire member and the tubular-shaped metal cladding layers by a drawing step to form the compound sheath superconducting wire, the junction auxiliary material at least containing a metal selected from a group including copper, silver, gold, palladium, aluminum, silicon, indium, tin, zinc, iron, lead, nickel, manganese and boron.

23. (Previously presented) The compound sheath superconducting wire of claim 21, wherein the intermediate layer is a tin alloy.

24. (Previously presented) The compound sheath superconducting wire of claim 22, wherein the intermediate layer is a tin alloy.

25. (Previously presented) A superconducting wire comprising:

at least one magnesium boride wire member;

a tubular shaped iron alloy surrounding said at least one magnesium boride wire member;

a copper portion surrounding said at least one magnesium boride wire member and said tubular shaped iron alloy prior to a drawing step to form the superconducting wire; and

an intermediate layer between said tubular shaped iron alloy and said copper portion, wherein said intermediate layer is a junction auxiliary material that is electrically and mechanically unified and integrated with said tubular shaped iron alloy and copper portion in a unitary structure such that a gap is not formed between the tubular shaped iron alloy and the copper portion by a drawing step to form the superconducting wire, and wherein said intermediate layer is constructed from a tin alloy.

26. (Previously presented) The superconducting wire of claim 25, wherein said tubular shaped iron alloy directly contacts said at least one magnesium boride wire member.

27. (New) A superconducting wire comprising:

at least one magnesium boride wire member;

a tubular shaped copper portion surrounding said at least one magnesium boride wire member;

an iron alloy surrounding said at least one magnesium boride wire member and said tubular shaped copper portion prior to a drawing step to form the superconducting wire; and

an intermediate layer between said iron alloy and said copper portion, wherein said intermediate layer is a junction auxiliary material that is electrically and mechanically unified and integrated with said iron alloy and said copper portion in a unitary structure such that a gap is not

formed between the iron alloy and the copper portion by a drawing step to form the superconducting wire, and wherein said intermediate layer is constructed from a tin alloy.

28. (Previously Presented) The superconducting wire of claim 27, wherein said tubular shaped copper portion directly contacts said at least one magnesium boride wire member.